

CLAIMS

What is claimed is:

1 1. An apparatus comprising:
2 a housing;
3 a mainboard including memory and a first processor mounted
4 within the housing;
5 a first network interface having a first network port and a first
6 address connected to the first processor;
7 at least one expansion slot for receiving a peripheral device: and
8 a network communications link connecting the first network
9 interface to said at least one expansion slot substantially disposed within
10 the housing,
11 wherein the first processor is enabled to communicate with a
12 peripheral device having a build-in network interface by transmitting data
13 via the first network interface and the built-in network interface over the
14 network communications link using a network transmission protocol.

1 2. The apparatus of claim 1, further comprising a second network
2 interface disposed on the mainboard in proximity to said at least one
3 expansion slot having a second address and a second network port to
4 enable communication between the first processor and a peripheral

5 device that does not include a built-in network interface when the
6 peripheral device is mounted in one of said at least one expansion slots.

1 3. The apparatus of claim 1, wherein the network communications
2 link comprises a network bus embedded in the mainboard.

1 4. The apparatus of claim 1, wherein the first network interface and
2 the communications link comprise an Ethernet subnet.

1 5. The apparatus of claim 1, further comprising:
2 a second processor; and
3 a second network interface connected to the second processor and
4 the network communications link to enable communication between the
5 second processor and a peripheral device having a built-in network
6 interface.

1 6. A system comprising:
2 a computing machine including a housing and a mainboard to
3 which memory and a first processor are connected, providing a first
4 network interface having a first network port and a first address;
5 a first peripheral device disposed within the housing;

6 a second network interface providing a second network port and a
7 second network address linked in communication with the first peripheral
8 device;

9 a communications link between the first and second network
10 interfaces substantially disposed within the housing; and

11 software comprising machine instructions that are executable by
12 the first processor that includes a socket application interface (API) that
13 binds the address of the first peripheral device to the second network port
14 and a network interface abstraction layer that provides an abstracted
15 interface that enables an application to communicate with the first
16 peripheral device using a networking protocol.

1 7. The system of claim 6, wherein the communications link and the
2 first and second network interfaces comprise an Ethernet subnet.

1 8. The system of claim 6, wherein the communication link
2 comprises a network signal bus built into the mainboard.

1 9. The system of claim 6, wherein the communications link
2 comprises a token ring.

1 10. The system of claim 6, wherein the second network interface is
2 built into the first peripheral device;

1 11. The system of claim 6, wherein the second network interface is
2 built into the mainboard.

1 12. The system of claim 6, wherein the peripheral device
2 comprises one of a video subsystem, a memory subsystem, a disk
3 controller and a modem.

1 13. The system of claim 6, wherein the mainboard further includes
2 a second processor connected to a third network interface having a third
3 network address and network port connected to the communications link.

1 14. A method for enabling communication between a peripheral
2 device disposed within a computing machine having a processor and an
3 application running on the processor, comprising:

4 providing a network interface for each of the processor and the
5 peripheral device;

6 providing a communication link between the network interfaces of
7 the processor and the peripheral device;

8 creating a network socket for each of the processor and the
9 peripheral device;

10 establishing a connection between the processor and the
11 peripheral device;

12 generating messages with the application;
13 transferring the messages between the processor and the
14 peripheral device using a network transmission protocol.

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1 16. The method of claim 15, wherein the network transmission
2 protocol comprises the TCP/IP protocol.

1 17. The method of claim 15, further comprising applying security
2 measures to determine if an application may connect to a particular
3 peripheral device.

1 18. The method of claim 15, wherein the network transmission
2 protocol comprises the UDP protocol.

1 19. The method of claim 15, wherein the communications link and
2 the network interfaces comprise an internal Ethernet network.

1 20. The method of claim 15, wherein the communications link and
2 the network interfaces comprise an internal token ring network.